

REMARKS

The Office Action dated February 21, 2003 has been carefully considered and this Reply prepared in response. Applicant respectfully requests reconsideration of the present application in view of the following remarks.

With the addition of new claims 10 and 11, claims 1, 3-5 and 7-11 are now pending in the application.

Applicant notes that reference characters have been retained and used in the claims, but these characters have no effect on claim scop. MPEP § 608.01(m).

In the Office Action, claims 1, 3-5 and 7-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,178,361 to George et al. in view of U.S. Patent Nos. 5,733,024 to Slocum et al., and 6,520,727 to Babbs. These rejections are respectfully traversed.

The Combined Teachings of George, Slocum and Babbs Fail To Disclose All Elements Of Claims 1 and 5

Claim 1 recites that at least two side walls of the substrate conveying module have kinematic coupling connecting elements that coact with corresponding kinematic coupling connecting elements of the workstation. Similarly, Claim 5 recites that at least two different side walls on the workstation have kinematic coupling connecting elements that coact with the corresponding kinematic coupling connecting elements in at least one side wall of the substrate conveying module.

Claims 1 and 5 differ from the teaching of George in three respects. First, George does not show that kinematic couplings are provided on at least two side walls of the substrate conveying module. Second, the features with reference numerals 16 and 17 are not kinematic couplings, but rather exhaust ports (16) and exhaust interface connections (17). See George, col 11, lines 12-16. The exhaust interface connection 17 is totally different from the kinematic couplings described in the specification and recited in claims 1 and 5. Third, the MHU (Material Handling Unit) and the substrate conveying module are actually connected by latch 11 (rollers 14 and ramps 15 are only used for alignment at the foot of the modules, not as part of the couplings (see col. 10, lines 48 to 60)). Thus, the couplings disclosed in George are not kinematic couplings as described in the present application and as claimed.

These structural deficiencies in George are not overcome by the other references. The Slocum disclosure shows couplings which are used for alignment purposes only (see col. 5, lines 42 to 53). The kinematic couplings are provided on or at specific locations of a module or module part (see for example col. 9, lines 18 – 26). There is nothing disclosed in Slocum which would motivate a skilled person to provide kinematic couplings on more than one surface or wall of an element which needs to be connected with another element. Even if one of skill were motivated to replace the clevis & clamp 11 arrangement of George with the couplings disclosed in Slocum, those couplings would be placed at the bottoms of the modules (at location 16, as shown in FIG. 1 of Slocum) and not as recited in claims 1 and 5. Further, Slocum does not enable the flexibility to connect the system elements in different orientations according to the customer requirements.

The Babbs disclosure does not show any kinematic couplings. Babbs discloses two parts of a system that are connected by a specific fastening system (see col. 9, lines 32 to 46). However, this fastening system is only provided on one side wall or one edge of the module. Nothing in the Babbs disclosure would motivate a skilled person to provide the kinematic couplings on more than one surface or wall of a module.

Since the combination of the references would not disclose the structure recited in claims 1 and 5, Applicants respectfully submit that these claims are allowable over the references. Accordingly, withdrawal of the rejections under 35 U.S.C. § 103(a) is respectfully requested.

Since claims 3, 4, and 7-9 depend from allowable claims, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 103(a) of these claims as well.

New Claims 10 and 11 Are Supported By The Specification And Figures

New claims 10 and 11 recite that substrates are conveyed or exchanged through the kinematic couplings. These claims are supported by the disclosure in the specification on pages 5, 8-12, and in figures 1-8.

George teaches interconnecting exhaust ports which include tapered alignment nozzles (18 in Fig. 11) that will prevent transfer of substrates between modules. Thus, George does not disclose kinematic couplings that will permit the exchange of

substates between modules. This deficiency is not resolved by either Slocum or Babbs. Accordingly, Applicants respectfully submit that new claims 10 and 11 are allowable over the cited references for this additional reason.

Conclusion

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

Respectfully submitted,

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